

DT14 Doc'd PCT/PTO 03 DEC 2004 #4

PCT

PATENT  
1254-0257PUS1

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicant: N. OKAMOTO, et al. Conf.: 2375  
Appl. No.: 10/507,068 Group: 2681  
Filed: September 9, 2004 Examiner: Unassigned  
For: RADIO COMMUNICATION SYSTEM

LETTER

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

December 3, 2004

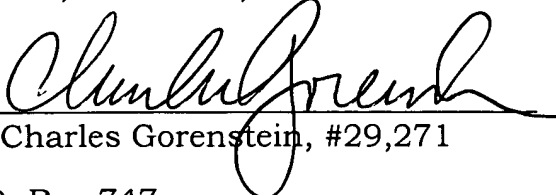
Sir:

Subsequent to the filing of the above-identified application on September 9, 2004, attached hereto is an English translation of the International Preliminary Examination Report (IPER 409) that should be made of record in the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By   
Charles Gorenstein, #29,271

CG/cb  
1254-0257PUS1

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Attachment(s)

From the INTERNATIONAL BUREAU

**PCT**

**NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

(PCT Rule 72.2)

To:

HIRAKI, Yusuke  
Toranomon No.5 Mori Building Third Floor, 17-1,  
Toranomon 1-chome  
Minato-ku, Tokyo 105-0001  
JAPON

Date of mailing ( <i>day/month/year</i> ) 14 October 2004 (14.10.2004)	
Applicant's or agent's file reference PH-1721-PCT	<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/JP2003/001719	International filing date ( <i>day/month/year</i> ) 18 February 2003 (18.02.2003)
Applicant SHARP KABUSHIKI KAISHA et al	

**1. Transmittal of the translation to the applicant.**

The International Bureau transmits herewith a copy of the English translation made by the International Bureau of the international preliminary examination report established by the International Preliminary Examining Authority.

**2. Transmittal of the copy of the translation to the elected Offices.**

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following elected Offices requiring such translation:

AZ, CA, CH, CN, CO, EP, GH, KG, KP, KR, MK, MZ, RO, RU, TM

The following elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, BA, BB, BG, BR, BY, BZ, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, ES, FI, GB, GD, GE, GM, HR, HU, ID, IL, IN, IS, KE, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MN, MW, MX, NO, NZ, OA, OM, PH, PL, PT, SC, SD, SE, SG, SK, SL, TJ, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

**3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).**

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report.

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.



The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.+41 22 740 14 35	Authorized officer  Yoshiko Kuwahara  Facsimile No.+41 22 338 90 90
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Translation

PATENT COOPERATION TREATY

PCT/JP2003/001719



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PH-1721-PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP2003/001719	International filing date (day/month/year) 18 February 2003 (18.02.2003)	Priority date (day/month/year) 11 March 2002 (11.03.2002)
International Patent Classification (IPC) or national classification and IPC H04Q 7/36		
Applicant SHARP KABUSHIKI KAISHA		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.  
☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 26 June 2003 (26.06.2003)	Date of completion of this report 30 March 2004 (30.03.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/001719

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
 pages 1-24, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages 3-8, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages 1,2,9,10, filed with the letter of 20 November 2003 (20.11.2003)
- ☒ the drawings:  
 pages 1-12, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP03/01719

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	4, 7, 8	YES
	Claims	1-3, 5, 6, 9, 10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

## 2. Citations and explanations

Document 1: JP, 2001-238269, A (KDDI Corp.), 31 August, 2001 (31.08.01)

Document 2: "A Discussion concerning the Soft Hand-Off Method in a One-Cell Repeated OFDM/TDMA System," (Toshiyuki Nakanishi, Masakazu Sanpei and Norihiko Morinaga), 2002 General Meeting of the Institute of Electronics, Information and Communication Engineers, 7 March, 2002 (07.03.02), 02-Spring-Communication 1-B-5-163, page 614

Document 3: JP, 5-259981, A (Nippon Telegraph and Telephone Corp.), 8 October, 1993 (08.10.93)

The subject matters of claims 1, 2, 5, 6, 9 and 10 do not appear to involve an inventive step in view of document 1 (page 3, right column, line 30 to page 4, left column, line 33) and document 2 (text, lines 31-39) cited in the ISR.

Document 1 describes a radio communication system using sub-carrier modulation in which (1) a radio station compares the received power measured with each sub-carrier, with the threshold value, and reports the result to a base station, and (2) the base station allocates only the sub-carriers allowing radio transmission of good quality to the radio station in response to the reported result.

Document 2 describes a technique as a method for allocating sub-carriers in which (1) a terminal measures the received S/I of each sub-carrier and notifies a base station of the measured result, and (2) only the sub-carriers having a received S/I not lower than the threshold value to show a good reception state are allocated.

Therefore, a person skilled in the art could have easily conceived of using a received S/I instead of a received power as an indicator for allocating sub-carriers in the radio communication system described in document 1. The subject matters of claims 1, 2, 5, 6, 9 and 10 are a mere application of the inventions described in documents 1 and 2 to a TDMA system. A person skilled in the art should decide, as required, whether the comparison between a received S/I and the threshold value is made in a base station or a radio station.

The subject matter of claim 3 does not appear to involve an inventive step in view of documents 1 and 2 and document 3 (page 3, left column, line 6 to right column, line 28).

Document 3 describes a technique in which in the case where a mobile station wishes to know the reception quality from plural base stations, signals necessary for detecting the reception quality are transmitted periodically to ensure that they do not collide with each other between base stations. Therefore, a person skilled in the art could have easily (1) used a received S/I instead of a received power as an indicator for allocating sub-carriers as taught by document 2 in the radio communication system described in document 1, and (2) periodically transmitted the signals for examining the reception quality at a terminal to ensure that they do not collide with each other between base stations.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of : V

The subject matter of claim 4 is neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.

None of the documents describes that (1) base stations stop transmission periodically sequentially one by one, and (2) when a base station engaged in communication stops transmission, a mobile station is made to measure the interference power from another base station.

The subject matters of claims 7 and 8 are neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art.

None of the documents describes that a mobile station (1) compares the reception state from a base station that is going to hand over, with the reception state from a candidate base station that is going to be handed over, with every sub-carrier, and (2) decides whether or not the handing-over should be made, by comparing the numbers of sub-carriers that are in a better reception state.